# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/544,544 | 04/06/2000 | Atsushi Uchino | Q58637 | 7510 |

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| 7590          05/17/2005 | **EXAMINER** |
| Sughrue Mion Zinn Macpeak & Seas PLLC | RYMAN, DANIEL J |
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|---|---|
| 2665 | |

DATE MAILED: 05/17/2005

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _18 April 2005_.

2a)☒ This action is **FINAL.**     2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1,2,4-9 and 13-17_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _16_ is/are allowed.

6)☒ Claim(s) _1,2,4-9,13-15 and 17_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All  b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1.      Applicant's arguments filed 4/18/2005 have been fully considered but they are not persuasive. On pages 2-3 of the Response, Applicant asserts that Bion is not a valid reference because Bion does not teach using the routing information for searching. Examiner submits that Yang teaches using the routing information for searching, such that Examiner does not rely upon Bion to teach this limitation. In Yang, the searching program is capable of sending a broadcast packet to a particular network (col. 2, lines 11-46), where this capability requires the client to have routing information. However, Yang does not teach how this routing information is received. Specifically, Yang does not disclose that the client device receives routing information in a packet. Bion teaches having a client device acquire a packet of routing information in order to update the routing information contained in the node (see col. 3, lines 42-61). Therefore the combination of Yang and Bion suggests acquiring routing information through a packet and then using this information to search for a particular node.

2.      On page 3 of the Response, Applicant tries to differentiate the claimed invention from Yang by stating that "[i]f a *broadcast* were simply performed, as taught in Yang, it would be necessary to list an enormous number of networks or nodes." However, the claimed invention also performs a broadcast search. Since both Yang and the claimed invention perform broadcast searches, Examiner does not find Yang's broadcast search as sufficient to distinguish the claimed invention from Yang.

3.      Applicant further asserts, on pg. 3 of the Response, that "Yang fails to disclose how the network address table 24 is prepared, and as such, does not disclose how any routing

information, if obtained, would be used and processed into information for node searching."

Examiner submits, as outlined in the Office Action, that, since Yang's client sends a broadcast

search to a particular subnetwork (col. 2, lines 28-33), Yang's client must use routing

information. Therefore, even if Yang does not disclose how the network address table is

prepared, Yang discloses that routing information would be used to direct a broadcast search to a

particular subnetwork in order to find a particular device.

4.      For the above reasons, Examiner maintains the rejection of the claims.

### *Claim Rejections - 35 USC § 103*

5.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

6.      Claims 1, 4, 5, 7, 13, 15, and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yang et al. (USPN 6,401,124) in view of Bion (USPN 6,097,718).

7.      Regarding claims 1, 5, and 7, Yang discloses a node-search method and device in a

network, comprising: a client (ref. 14) of a first domain (sub-network), sending a broadcast

packet (search request), for requesting a response from a node (ref. 20: server) which provides a

specific service (ref. 18: peripheral), to at least any one of said plurality of domains (other sub-

networks) other than the first domain which is listed in routing information (col. 2, lines 26-33

and col. 2, lines 42-46); and receiving a response packet for said broadcast packet and detecting

the node which sent the response packet (col. 1, lines 45-54).

Yang does not expressly disclose that the client of a first domain acquires a packet which includes routing information of a network configured with a plurality of domains including, the first domain connected to at least one interworking unit. However, Yang suggests that the client uses routing information to perform the broadcast search since the client can direct a search to a specific sub-network (col. 2, lines 26-33 and col. 2, lines 42-46). Yang also discloses that the network can have a plurality of sub-networks (col. 2, lines 28-33). Bion teaches, in a packet communication system, having a client (ref. 112) of a first domain acquire a packet (routing information) which includes routing information of a network configured with a plurality of domains including, the first domain connected to at least one interworking unit (ref. 103: router) in order to update dynamic routes (col. 3, lines 29-31 and col. 3, lines 42-65). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the client of a first domain acquire a packet which includes routing information of a network configured with a plurality of domains including, the first domain connected to at least one interworking unit in order to update dynamic routes.

Yang in view of Bion does not expressly disclose implementing the process by a program in a computer-readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

8.      Regarding claims 4 and 13, Yang implicitly discloses a node-search method in a network, comprising the steps of: a client device (ref. 14), acquiring information indicating a network number and an address of an interconnecting node of each domain (sub-networks) in the network (col. 2, lines 26-33 and col. 2, lines 42-46); and the client device, broadcasting, based on said

acquired information, into a specific network (particular sub-network) so as to search for a node (ref. 20: server), (col. 2, lines 26-33 and col. 2, lines 42-46).

Yang does not expressly disclose a client device, receiving a RIP (Routing Information Protocol) packet; the client device, acquiring information from said received RIP packet; and using a router for an interconnecting node. However, Yang suggests that the client uses routing information to perform the broadcast search since the client can direct a search to a specific sub-network (col. 2, lines 26-33 and col. 2, lines 42-46). Yang also discloses that the network can have a plurality of sub-networks (col. 2, lines 28-33). Bion teaches, in a packet communication system, having a client device, receive a RIP (Routing Information Protocol) packet and the client device, acquire information from said received RIP packet (col. 3, lines 29-31; col. 3, lines 42-65; and col. 5, lines 45-46) where it is implicit that RIP is a well-known protocol. Bion also teaches using routers to interconnect networks (col. 3, lines 29-31). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a client device, receive a RIP (Routing Information Protocol) packet and the client device, acquire information from said received RIP packet in order to have the client acquire the routing information which it uses to perform the broadcast search. It also would have been obvious to one of ordinary skill in the art at the time of the invention to use a router for the interconnecting node since routers couple multiple networks.

Yang in view of Bion does not expressly disclose broadcasting to a specific domain using a specific port number; however, Examiner takes official notice that it is well known in the art to use specific port numbers to broadcast to a specific domain since each network domain is connected to the internetworking unit via a specific port. Yang in view of Bion also does not

expressly disclose implementing the process by a program in a computer-readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

9.      Regarding claim 15, referring to claim 1, Yang in view of Bion discloses that a plurality of interworking units exist in the network, wherein at least one of said plurality of interworking units is a bridge, a brouter, or a router (Bion: col. 3, lines 27-31).

10.     Regarding claim 17, referring to claim 1, Yang in view of Bion discloses that the node-search method further comprising: first sending the broadcast packet to at least one of said plurality of domains with a hop count less than a specified number (Bion: col. 3, lines 29-31 and col. 3, lines 42-65) where "a specified number" can be any number such that any particular network receiving a broadcast packet would be less than a specified number of hops away.

11.     Claims 2, 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (USPN 6,401,124) in view of Bion (USPN 6,097,718) in further view of Gifford (USPN 6,052,718).

12.     Regarding claims 2, 6, and 8, Yang discloses a node-search method and device in a network, the method comprising the steps of and the device comprising means for: sending a broadcast packet (search request), for requesting a response from a node (ref. 20: server) that provides a specific service (ref. 18: peripheral), from a client device (ref. 14) to at least any one of said plurality of domains (other sub-networks) other than said first domain (col. 2, lines 26-33 and col. 2, lines 42-46); and receiving, in said client device, a response packet in response to said broadcast packet, and detecting the node which sent the response packet (col. 1, lines 45-54).

Yang does not expressly disclose receiving a packet, by the client device, the packet

containing routing information from the network, which is connected to an interworking unit,

from the interworking unit, where the interworking unit is capable of storing routing information

set in advance. However, Yang suggests that the client uses routing information to perform the

broadcast search since the client can direct a search to a specific sub-network (col. 2, lines 26-33

and col. 2, lines 42-46). Yang also discloses that the network can have a plurality of sub-

networks (col. 2, lines 28-33). Bion teaches, in a packet communication system, receiving a

packet (routing information), by the client device (ref. 112), the packet containing routing

information from the network, which is connected to an interworking unit (ref. 103: router), from

the interworking unit, where the interworking unit is capable of storing routing information set in

advance in order to update dynamic routes (col. 3, lines 29-31 and col. 3, lines 42-65). Thus, it

would have been obvious to one of ordinary skill in the art at the time of the invention to receive

a packet, by the client device, the packet containing routing information from the network which

is connected to an interworking unit, from the interworking unit, where the interworking unit is

capable of storing routing information set in advance in order to update dynamic routes.

Yang in view of Bion does not expressly disclose sending a packet, for requesting routing

information. However, Yang in view of Bion discloses that the client device initially receives

routing information, but Yang in view of Bion does not expressly disclose how this routing

information is initially received (Bion: col. 3, lines 47-52). Gifford teaches, in a packet

communication system, sending a packet, for requesting routing information, in order to initially

obtain routing information (col. 4, lines 19-41). Thus, it would have been obvious to one of

ordinary skill in the art at the time of the invention to send a packet, for requesting routing

information, in order to initially obtain routing information.

Yang in view of Bion in further view of Gifford does not expressly disclose

implementing the process by a program in a computer-readable storage medium; however,

Examiner takes official notice that implementing a method in software is very well known.

13.     Regarding claim 9, referring to claim 8, Yang in view of Bion in further view of Gifford

discloses that the interworking unit is a router (Bion: col. 3, lines 29-31).

14.     Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al.

(USPN 6,401,124) in view of Bion (USPN 6,097,718) in further view of Ahearn et al (USPN

5,926,463).

15.     Regarding claim 14, Yang implicitly discloses a process of acquiring information

indicating a network number and an address of an interconnecting node of each domain (sub-

network) of said plurality of domains including the first domain in the network (col. 2, lines 26-

33 and col. 2, lines 42-46); a process of broadcasting into at least any one of said plurality of

domains (other sub-networks) other than the first domain, based on said acquired information so

as to search for a node (ref. 20: server) wherein said computer is a client device (ref. 14) (col. 2,

lines 26-33 and col. 2, lines 42-46).

Yang does not expressly disclose a process of receiving a packet from at least one router

of a network configured with a plurality of domains including the first domain and a process of

acquiring information from the received packet. However, Yang suggests that the client uses

routing information to perform the broadcast search since the client can direct a search to a

specific sub-network (col. 2, lines 26-33 and col. 2, lines 42-46). Yang also discloses that the

network can have a plurality of sub-networks (col. 2, lines 28-33). Bion teaches, in a packet

communication system, having a process of receiving a packet from at least one router of a

network configured with a plurality of domains including the first domain and a process of

acquiring information from the received packet in order to update dynamic routes (col. 3, lines

29-31 and col. 3, lines 42-65). Thus, it would have been obvious to one of ordinary skill in the

art at the time of the invention to have a process of receiving a packet from at least one router of

a network configured with a plurality of domains including the first domain and a process of

acquiring information from the received packet in order to update dynamic routes.

     Yang in view of Bion does not expressly disclose that the packet is an SNMP packet.

However, it is well known in the art to use packets to allow interface nodes, such as routers, to

update their network maps using SNMP packets in order to have the maps accurately reflect any

changes in the network, as is evidenced by Ahearn (col. 12, lines 3-9). It would have been

obvious to one of ordinary skill in the art at the time of the invention to receive an SNMP packet

which includes routing information in which a domain in the network is listed in order to ensure

that all interface nodes have an accurate map of the networks which the interface nodes are

connecting.

     Yang in view of Bion in further view of Ahern does not expressly disclose broadcasting

to a specific domain using a specific port number; however, Examiner takes official notice that it

is well known in the art to use specific port numbers to broadcast to a specific domain since each

network domain is connected to the internetworking unit via a specific port. Yang in view of

Bion also does not expressly disclose implementing the process by a program in a computer-

readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

### *Allowable Subject Matter*

16.     Claim 16 is allowed. The prior art does not disclose or fairly suggest sending the first broadcast to the domain with the fewest hop counts.

### *Conclusion*

17.     The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baratz et al (USPN 4,914,571) see entire document which discloses that any node can initiate a search (col. 2, lines 28-37) and that a node acquires routing information through searches, where a search would necessitate sending a request for information (col. 5, lines 17-45, esp. col. 7, lines 31-34).

18.     **THIS ACTION IS MADE FINAL.**  Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action.  In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.  In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
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